PLUG GAGE DIMENSIONAL INSPECTION

TYPE OF INSPECTION PRE-REPAIR ☐ POST-REPAIR ☐ NEW MANUFACTURE ☐		
GAGE SERIAL NO.		
GAGE STOCK NO.		
GAGE DRAWING NO.		REV.
SIGNATURE & TITLE OF QUALIFIED INSPECTOR	DATE	ACTIVITY
APPROVED BY	DATE	ACTIVITY

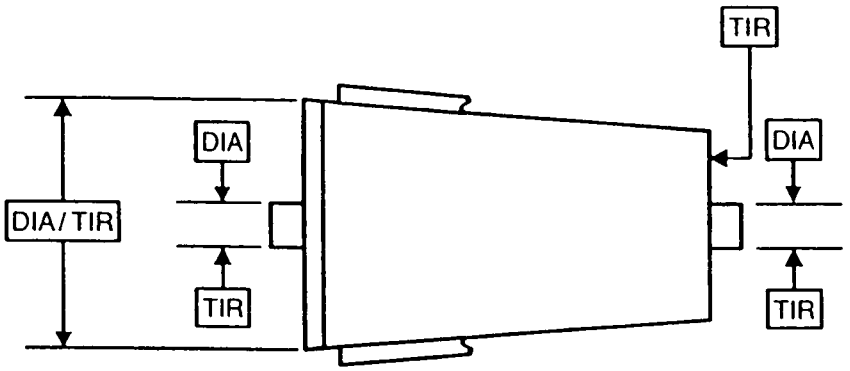
INSTRUCTIONS:

1. Gages shall be inspected and measured in accordance with the applicable gage drawing. Refer to NAVSEA S9243-A5-MMD-010 for additional information.
2. Fill in all forms and identify by circling all out of tolerance measurements.

DISTRIBUTION: One copy to NAVSEA.

PLUG GAGE DIMENSIONAL INSPECTION

PLUG GAGE FEATURE INSPECTION

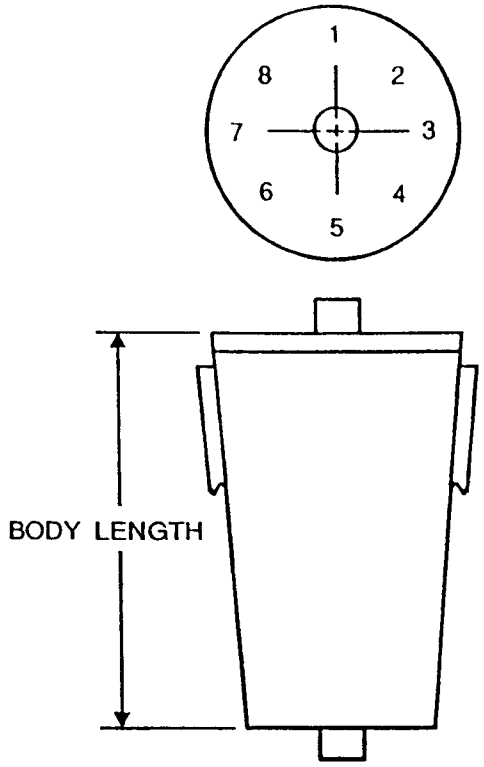


PLUG GAGE FEATURE	DIAMETER				RUNOUT (TIR)	
	ACTUAL	DESIGN	DEVIATION (ACTUAL – DESIGN)	TOLERANCE	ACTUAL	TOLERANCE
LARGE END BOSS				+0.001 –0.001		0.001
LARGE END DIAMETER				+0.001 –0.000		0.001
SMALL END BOSS				+0.001 –0.001		0.001
SMALL END FACE						0.001

PLUG GAGE SERIAL NO. _____

PLUG GAGE DIMENSIONAL INSPECTION

PLUG GAGE BODY LENGTH

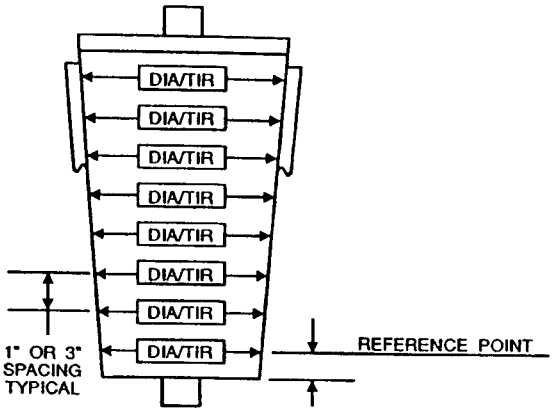


		ACTUAL	DESIGN	DEVIATION (AVERAGE ACTUAL – DESIGN)	TOLERANCE
PLUG GAGE BODY LENGTH (8 EQUALLY SPACED PLACES)	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	AVERAGE				

PLUG GAGE SERIAL NO. _____

PLUG GAGE DIMENSIONAL INSPECTION

PLUG GAGE TAPER INSPECTION



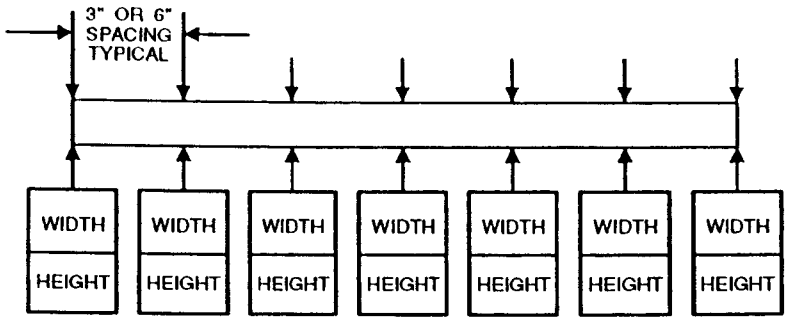
REFERENCE POINT HEIGHT _____

SPACING ON GAGE TAPER		DIAMETER				RUNOUT (TIR)	
PROPELLER	INBD CPLG	ACTUAL	DESIGN	DEVIATION (ACTUAL – DESIGN)	TOLERANCE	ACTUAL	TOLERANCE
(REF. PT.) 0	0				+0.000/–0.001		0.001
3	1				+0.000/–0.001		0.001
6	2				+0.000/–0.001		0.001
9	3				+0.000/–0.001		0.001
12	4				+0.000/–0.001		0.001
15	5				+0.000/–0.001		0.001
18	6				+0.000/–0.001		0.001
21	7				+0.000/–0.001		0.001
24	8				+0.000/–0.001		0.001
27	9				+0.000/–0.001		0.001
30	10				+0.000/–0.001		0.001
33	11				+0.000/–0.001		0.001
36	12				+0.000/–0.001		0.001
39	13				+0.000/–0.001		0.001
42	14				+0.000/–0.001		0.001
45	15				+0.000/–0.001		0.001
48	16				+0.000/–0.001		0.001
51	17				+0.000/–0.001		0.001
54	18				+0.000/–0.001		0.001
57	19				+0.000/–0.001		0.001
60	20				+0.000/–0.001		0.001
63	21				+0.000/–0.001		0.001
66	22				+0.000/–0.001		0.001
69	23				+0.000/–0.001		0.001
72	24				+0.000/–0.001		0.001

PLUG GAGE SERIAL NO. _____

PLUG GAGE DIMENSIONAL INSPECTION

KEY INSPECTION



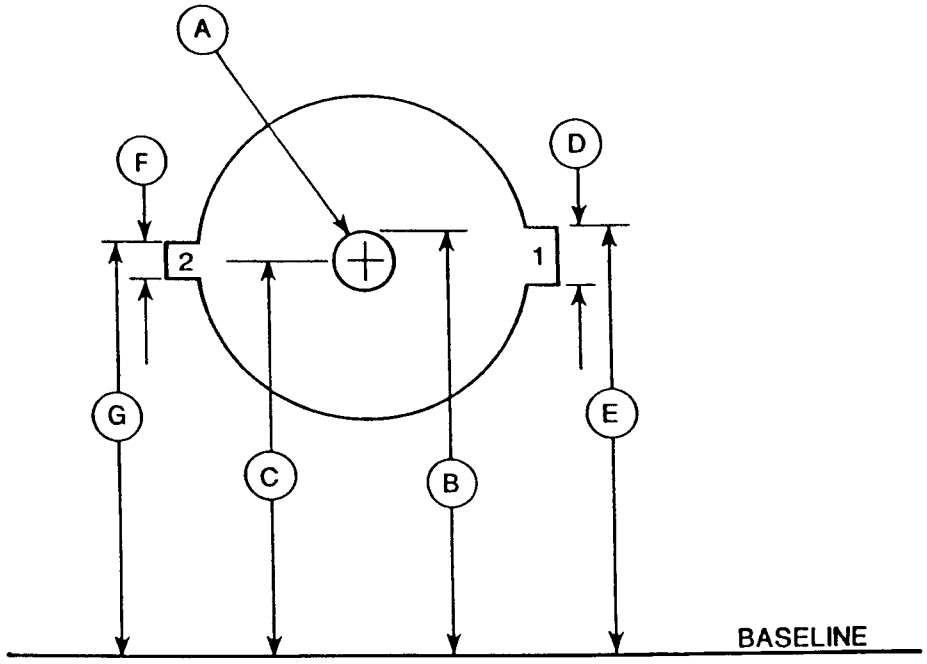
KEY LENGTH		WIDTH			
PROPELLER	INBD CPLG	ACTUAL	DESIGN	DEVIATION (ACTUAL – DESIGN)	TOLERANCE
0	0				+0.001/–0.000
6	3				+0.001/–0.000
12	6				+0.001/–0.000
18	9				+0.001/–0.000
24	12				+0.001/–0.000
30	15				+0.001/–0.000
36	18				+0.001/–0.000
42	21				+0.001/–0.000
48	24				+0.001/–0.000

KEY LENGTH		HEIGHT			
PROPELLER	INBD CPLG	ACTUAL	DESIGN	DEVIATION (ACTUAL – DESIGN)	TOLERANCE
0	0				+/–0.001
6	3				+/–0.001
12	6				+/–0.001
18	9				+/–0.001
24	12				+/–0.001
30	15				+/–0.001
36	18				+/–0.001
42	21				+/–0.001
48	24				+/–0.001

PLUG GAGE SERIAL NO. _____

PLUG GAGE DIMENSIONAL INSPECTION

PLUG GAGE KEYWAY SPACING SETUP

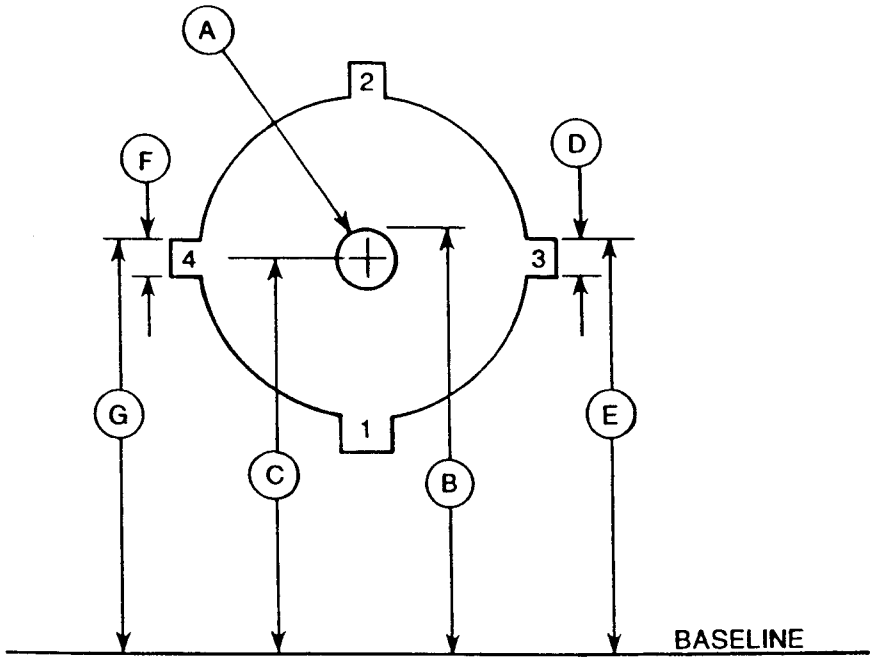


DIMENSION	FORWARD END	AFT END
BALL RADIUS, A		
BALL HEIGHT, B		
CENTERLINE HEIGHT C = (B – A)		
LARGE KEY WIDTH, D		
LARGE KEY HEIGHT E = (C + D/2)		
SMALL KEY WIDTH, F		
SMALL KEY HEIGHT G = (C + F/2)		

PLUG GAGE SERIAL NO. _____

PLUG GAGE DIMENSIONAL INSPECTION

PLUG GAGE KEYWAY SPACING SETUP

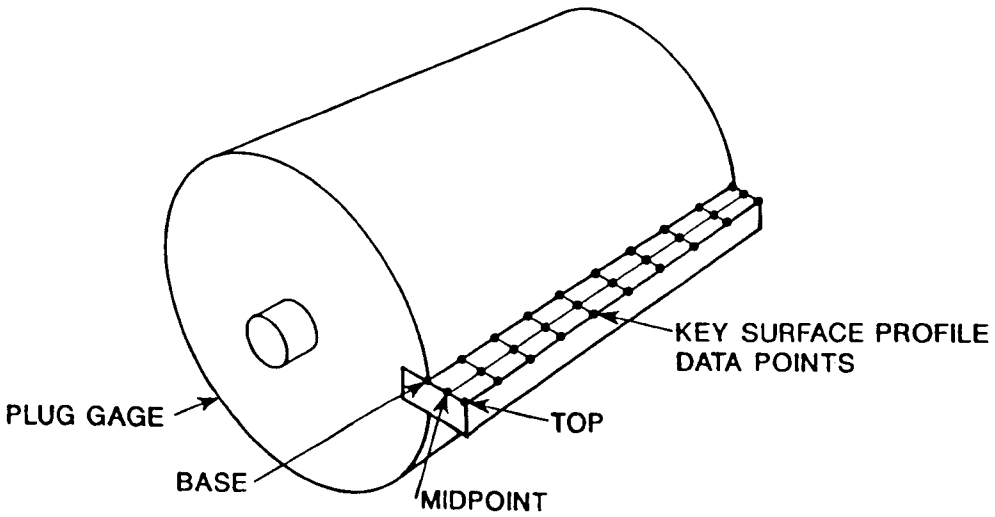


DIMENSION	FORWARD END	AFT END
BALL RADIUS, A		
BALL HEIGHT, B		
CENTERLINE HEIGHT C = (B – A)		
3RD KEY WIDTH, D		
3RD KEY HEIGHT E = (C + D/2)		
4TH KEY WIDTH, F		
4TH KEY HEIGHT G = (C + F/2)		

PLUG GAGE SERIAL NO. _____

PLUG GAGE DIMENSIONAL INSPECTION

PLUG GAGE KEY SURFACE TRACING



KEY SURFACE PROFILE DATA

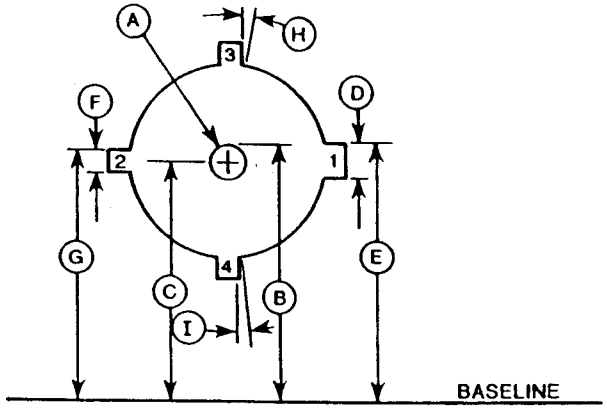
KEY LENGTH		KEY #1 HEIGHT			KEY #2 HEIGHT			KEY #3 HEIGHT			KEY #4 HEIGHT		
PROPELLER	INBD CPLG	BASE	MIDPT	TOP	BASE	MIDPT	TOP	BASE	MIDPT	TOP	BASE	MIDPT	TOP
0	0												
6	3												
12	6												
18	9												
24	12												
30	15												
36	18												
42	21												
48	24												

Set height gage to key height calculated during key profile inspection setup (E & G pp 5, 6, 8).
Key surface profile tolerance is 0.001 inch.

PLUG GAGE SERIAL NO. _____

PLUG GAGE DIMENSIONAL INSPECTION

PLUG GAGE KEYWAY SPACING INSPECTION



DIMENSION	FORWARD END	AFT END
BALL RADIUS, A		
BALL HEIGHT, B		
CENTERLINE HEIGHT, C = (B – A)		
1ST KEY WIDTH, D		
1ST KEY HEIGHT, E = (C + D/2)		
2ND KEY WIDTH, F		
2ND KEY HEIGHT, G = (C + F/2)		

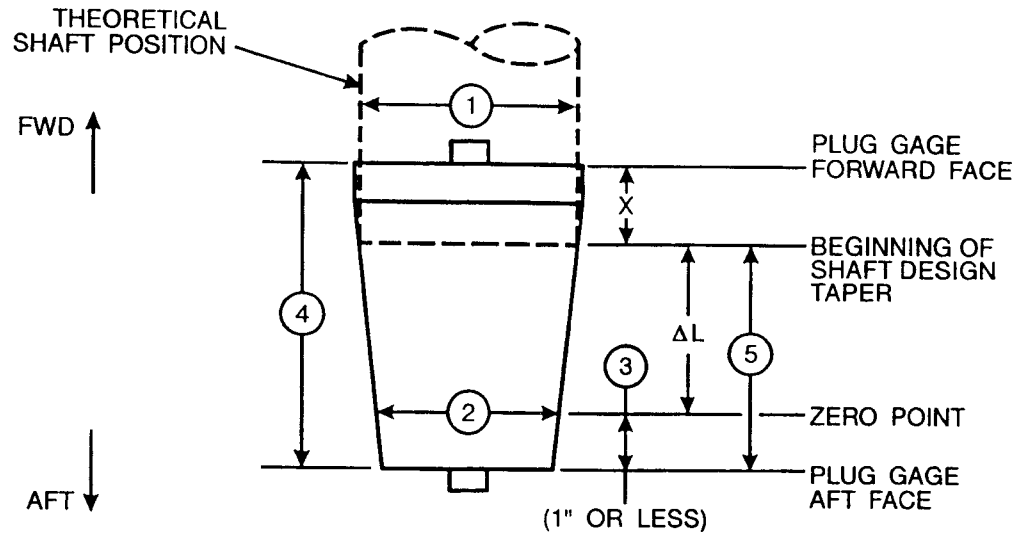
KEY LENGTH		TOP KEY SPACING BRACKET CLEARANCE, H	BOTTOM KEY SPACING BRACKET CLEARANCE, I
PROPELLER	INBD CPLG	ACTUAL	ACTUAL
0	0		
6	3		
12	6		
18	9		
24	12		
30	15		
36	18		
42	21		
48	24		

Maximum allowable key spacing bracket clearance is 0.001 inch.

PLUG GAGE SERIAL NO. _____

PLUG GAGE DIMENSIONAL INSPECTION

PROPELLER PLUG GAGE COVER PLATE IDENTIFICATION DATA



Shaft design diameter at beginning of shaft design taper, from applicable propeller shaft detail drawing.	①	
Plug diameter at zero point.	②	
Distance zero point is forward of gage aft face.	③	
Plug gage body length.	④	
Inverse of shaft taper, inch length per inch change in diameter, from applicable propeller shaft detail drawing.	1 / t	
Change in diameter from the shaft design diameter at the beginning of the shaft design taper to the diameter at the zero point.	ΔD = ① − ②	
Change in length from the beginning of the shaft design taper to the zero point.	ΔL = ΔD * 1 / t	
Distance from the beginning of the shaft design taper to the plug gage aft face.	⑤ = ΔL + ③	
Distance the gage forward face is forward or aft of the beginning of the shaft design taper.	X^1 = ④ − ⑤ X^2 = ⑤ − ④	

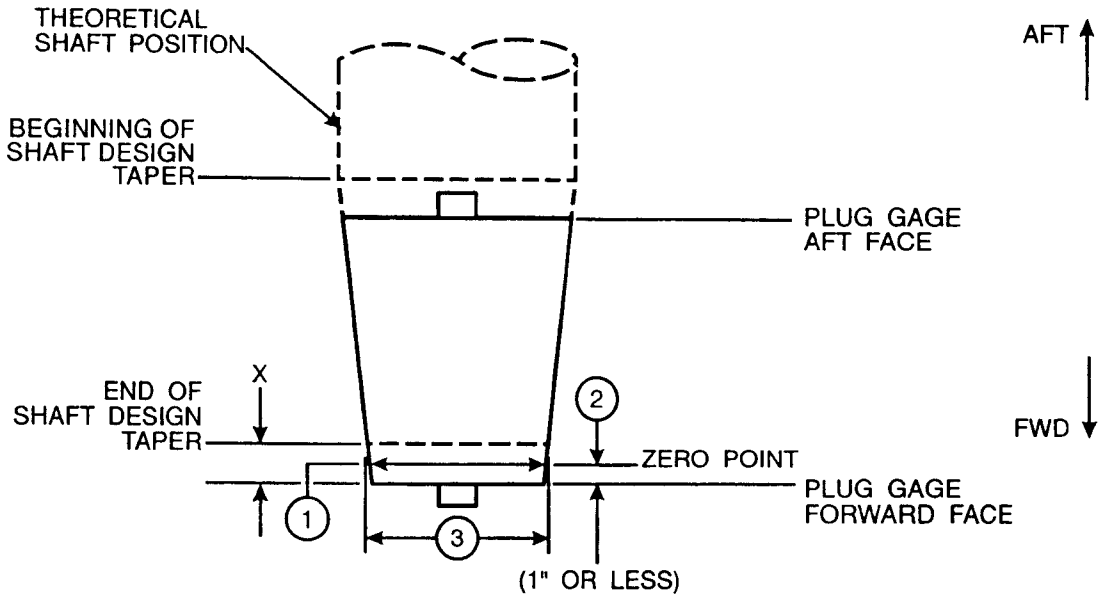
Notes:

1. If the gage forward face is forward of the beginning of the shaft design taper.
2. If the gage forward face is aft of the beginning of the shaft design taper.

PLUG GAGE SERIAL NO. _____

PLUG GAGE DIMENSIONAL INSPECTION

INBOARD COUPLING PLUG GAGE COVER PLATE IDENTIFICATION DATA



Plug diameter at zero point.	①	
Distance zero point is aft of gage forward face.	②	
Shaft diameter at end of shaft design taper, from applicable propeller shaft detail drawing.	③	
Inverse of shaft taper, inch length per inch change in diameter, from applicable shaft detail drawing.	1 / t	
Distance the gage forward face is forward or aft of the end of the shaft design taper.	$X^1 = [(③ - ①) * (1 / t)] + ②$	
	$X^2 = [(① - ③) * (1 / t)] - ②$	

Notes:

1. If the plug gage forward face is forward of the end of the shaft design taper.
2. If the plug gage forward face is aft of the end of the shaft design taper.

PLUG GAGE SERIAL NO. _____